



Air Force Research Laboratory|AFRL

Science and Technology for Tomorrow's Air and Space Force

Success Story

MR. JOHN TURTLE RECEIVES THE GENERAL RONALD W. YATES AWARD FOR EXCELLENCE IN TECHNOLOGY TRANSFER



The Air Force Materiel Command recognized Mr. John Turtle for his technical leadership in developing phased array antenna technology. Low profile, phased array antennas have important applications to low-observable and high-performance Department of Defense (DoD) platforms and to commercial aircraft where fuel economy is essential. Major commercial carriers have fully embraced this major technology breakthrough in order to provide passengers with Internet access.



Air Force Research Laboratory
Wright-Patterson AFB OH

Accomplishment

Mr. John Turtle of the Sensors Directorate's Antenna Technology Branch received the General Ronald W. Yates Award for Excellence in Technology Transfer. A recent letter from Boeing officials clearly credits Mr. Turtle with leading the development of this technology.

Background

Using technology development that was started in the 1980s by the Antenna Technology Branch, Boeing is currently applying active phased array antennas to both DoD and commercial satellite communications. This technology had its origins in the Integrated Circuit Airborne Phased Array contract with Boeing, which researchers trace back to Mr. Turtle's research efforts.

For the past 10 years, Mr. Turtle served as laboratory program manager for projects that included multiple simultaneous contracts, in-house antenna element modeling, and installation of test equipment at the branch's antenna range to make the first measurement of the gain of an active aperture phased array antenna. He managed a technical team that interacted with contractors to provide radio frequency component designs, antenna architecture studies, radiating element improvement, and multilayer microwave packaging.

From the late 1980s, Mr. Turtle was responsible for developing new phased array antennas for satellite communication applications. Due to his efforts, the directorate's antenna laboratory enjoys a full complement of state-of-the-art measurement equipment.

To market this new technology, Mr. Turtle teamed with Boeing and the National Aeronautics and Space Administration to participate in the Joint Warrior Interoperability Demonstrations and the Expeditionary Force Experiments. These demonstrations clearly showed the important application of phased array antennas for both DoD and commercial satellite communications.

The Federal Communications Commission licensed Boeing to provide high-speed Internet access to commercial airline passengers using phased array antennas. In 2002, Lufthansa Airlines plans to equip its long-haul fleet with these new phased array antennas.

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (02-SN-06)